

Autonomous Vehicles

ISSUE TYPE	Regulatory (Federal)	KEY DATES	Sept. 20, 2016 – USDOT issues automated vehicle policy
AGENCY	USDOT/NHTSA		
STATUS	Active/Tracking		Sept. 12, 2017 – USDOT issues automated vehicle policy 2.0
DIVISION IMPACT	Rail, MC		
INTERESTED PARTIES	AAR, ATA, OOIDA	MOST RECENT ACTION	Oct. 4, 2018 – USDOT issues automated vehicle policy 3.0

Summary

In response to “the cusp of a technological transformation,” the U.S. Department of Transportation (USDOT) and the National Highway Traffic Safety Administration (NHTSA) released the “Federal Automated Vehicles Policy: Accelerating the Next Revolution in Roadway Safety” in Sept. 2016. The policy was intended to create a path forward “for the safe testing and deployment of new auto technologies.” In 2017, USDOT and NHTSA released “A Vision for Safety 2.0” which contains many of the same themes but is intended to replace the 2016 guidance. It calls on “industry, state and local governments, safety and mobility advocates and the public to lay the path for the deployment of automated vehicles and technologies.” The utilization of this guidance is entirely voluntary and is meant to encourage best practices while providing technical assistance to States.

“Vision for Safety 2.0” applies to all vehicles that use public roadways and intend to incorporate Automated Driving Systems (ADSs), including light-, medium-, and heavy-duty vehicles. It adopts the SAE International, a professional organization comprised of over 127,000 members from the automotive, aerospace, and commercial vehicle industries, definitions of automation including:

- Level 0, a human does everything;
- Level 1, an automated system sometimes assists the human to complete parts of driving;
- Level 2, an automated system can conduct some driving tasks, which a human monitors;
- Level 3, an automated system can conduct some driving tasks and monitor them in some instances but a human can take back controls when the system requests;
- Level 4, an automated system conducts the driving task and monitors the environment but can only operate in certain environments and under certain conditions; and
- Level 5, an automated system can perform all tasks, under all conditions.

The 2017 guidance focuses on SAE International levels of automation three through five.

On Oct. 4, 2018, USDOT released its “Preparing for the Future of Transportation: Automated Vehicles 3.0” guidance document which is intended to supplement, not replace, the 2.0 version. The 3.0 version expands its scope by incorporating all surface transportation operating administrations and including all five SAE automation levels. It addresses both automation in commercial motor vehicles (CMVs), and how it might be used to improve operations at intermodal port facilities. The guidance also indicates that USDOT will “adapt the definitions of ‘driver’ and ‘operator’ to recognize that such terms do not exclusively refer to a human.” Additionally, it announces a collaboration between USDOT, U.S. Department of Labor (USDOL), U.S. Department of Commerce, and the U.S. Department of Health and Human Services to study the workforce impacts.

In response to criticism from stakeholders, including the American Trucking Associations (ATA), saying the development of guidance included almost no involvement from the trucking industry, the USDOT created an Advisory Committee on Automation in Transportation (ACAT). The ACAT is comprised of 25 industry stakeholders representing modes of transportation, businesses developing automation technologies, and government bodies. However, the group has not met since 2017 and stakeholders remain critical of the guidance development process. In response, NHTSA issued a series of requests for comments seeking more input on the policy in general, on how safety is being addressed by manufacturers when testing ADSs, and on existing regulatory barriers to the use of the technologies on the roads. The Federal Highway Administration (FHWA) also issued a request for information, seeking comments on any infrastructure requirements that may be necessary for the efficient operation of ADSs on U.S. roads.

While NHTSA continues to update its guidance for ADSs, the Federal Motor Carrier Safety Administration

(FMCSA) is finalizing an Advance Notice of Proposed Rulemaking on more specific recommendations or requirements for automated trucks. In May 2019, FMCSA and NHTSA separately requested comments on potential regulatory barriers to the safe testing of commercial ADSs. Additionally, the Government Accountability Office published a study addressing potential workforce effects in March 2019. The study recommended USDOT and USDOL continue to meet with industry stakeholders to gather and analyze workforce data on an ongoing basis.

Congress has also attempted to have input in ADS implementation and regulation. In July 2017, the Safely Ensuring Lives Future Deployment and Research in Vehicle Evolution (SELF DRIVE) Act was introduced in the House. The bill passed the House on Sept. 6, 2017 and outlined the federal framework for regulating ADSs but, notably, excluded CMVs. In Sept. 2017, the Senate Commerce Committee produced their own autonomous vehicle bill, titled the American Vision for Safer Transportation Through Advancement of Revolutionary Technologies (AV START) Act. The Senate bill also excluded CMVs. Both bills died at the conclusion of the 115th Congress but there remains a chance they will be reintroduced in the 116th.

As the federal government explores how to legislate and regulate the technology, demonstration projects have moved forward. In 2016, Uber's self-driving truck division deployed a Class 8 tractor trailer in Colorado to complete a 120-mile delivery, the first delivery of goods by a self-driving truck in the world. In March 2019, FHWA awarded funds through a Broad Agency Announcement for a nine-month project testing truck platooning in several states across the country.

Potential Impact to Intermodal Freight Transportation

Following are some potential impacts of autonomous vehicles on intermodal freight transportation:

Impact 1:

Increased use of technology could have positive impacts on safety as systems that mitigate human error are installed on more trucks.

Impact 2:

The use of truck platooning, when multiple trucks closely follow one another and use vehicle-to-vehicle technology to communicate and immediately react to each other's actions, could divert freight traffic to roads from rail intermodal service.

Impact 3:

While it is still too early to tell, as the technology advances ADSs may become sophisticated enough to operate independently and to displace CMV drivers.

Should this occur, it may have an impact on the driver shortage. However, for the foreseeable future, experts agree that an operator will be needed in the cab as a failsafe. In such an instance, a CMV operator's on duty hours of service limits may increase in flexibility as autonomous technology could provide a driver with the opportunity to rest while still being in the cab.